

Canine ophthalmology

Diseases of the Lids and Cornea

Dr Debbie

Equipment

Illumination

Fluorescein Stain

Schirmer Tear Test

Alcaine (proparacain hydrochloride)

Atropine

Lubricant

Broad Spectrum Antibiotic

Steroid

Cyclosporin

Eye surgical pack

Outline

Anatomy

Equipment

Diseases of the lid

Diseases of the meibomian and 3rd eyelid gland

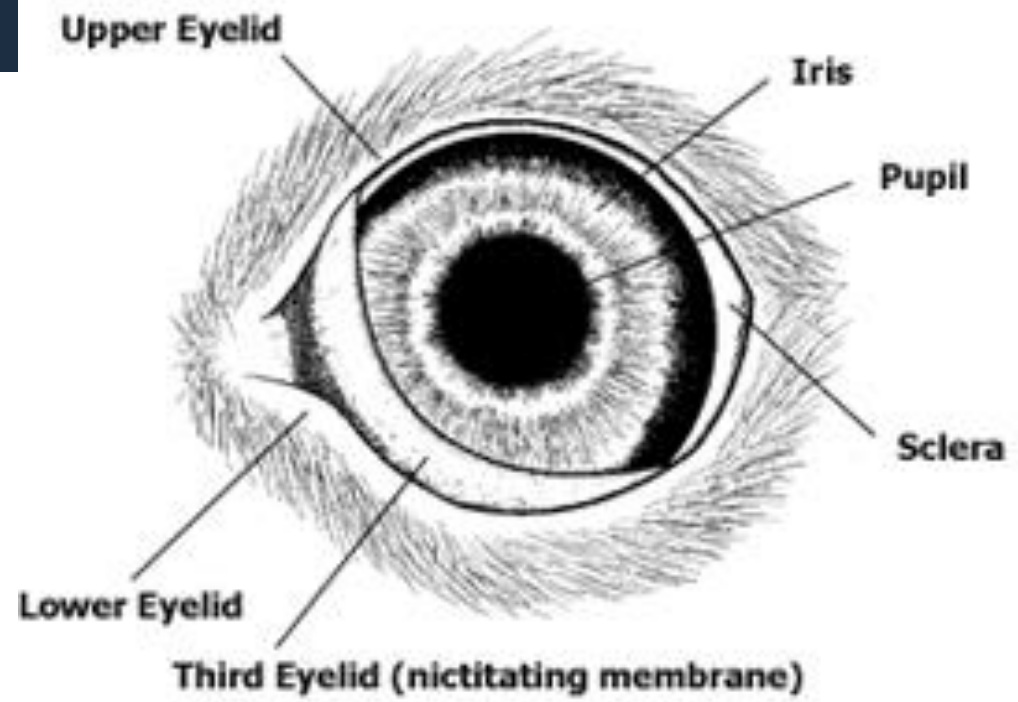
Corneal infiltrates

Corneal ulcers – superficial, deep, indolent

Other corneal diseases

<https://www.youtube.com/watch?v=8UjRwlk6uWk&feature=youtu.be>





Care of Dog's Eyes

- ▶ Keep them clean
- ▶ Protect from dust
- ▶ Get dog used to head being handled



Breed differences

- **Dolichocephalic** – long and narrow (Whippet, Collie, German Shepherd, Poodle)
- **Mesocephalic** – moderate, broader at the back than the muzzle (Labradors, Mastiff)
- **Brachycephalic** – wide skull with shortened muzzle (Pug, Boston Terrier)



Mesocephalic



Dolichocephalic



Brachycephalic



Anatomic Diseases of the Lids

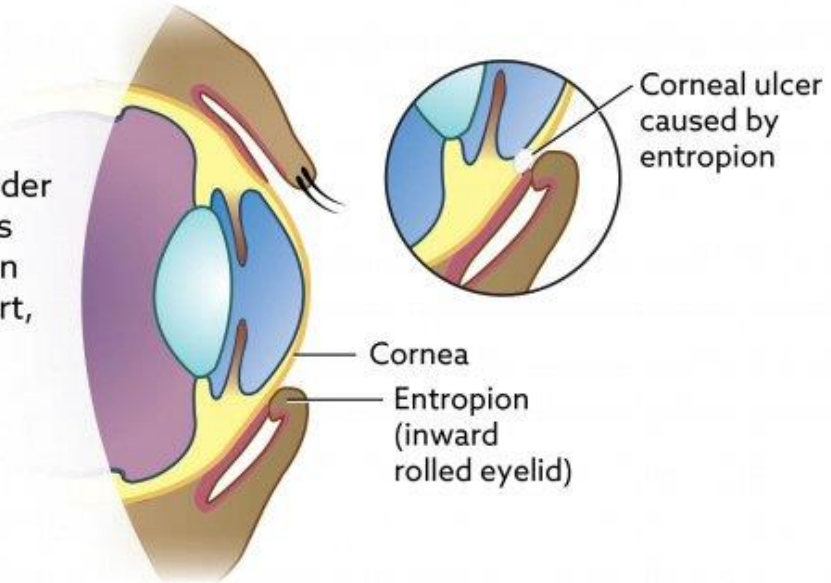
- Entropion
- Ectropion
- Distichiasis, Trichiasis
- Ectopic Cilia
- Enlarged medial Canthus
- Nasal lacrimal duct blockage



Entropion

Entropion is a hereditary disorder in certain breeds of dog which can cause discomfort, pain, and other eye problems.

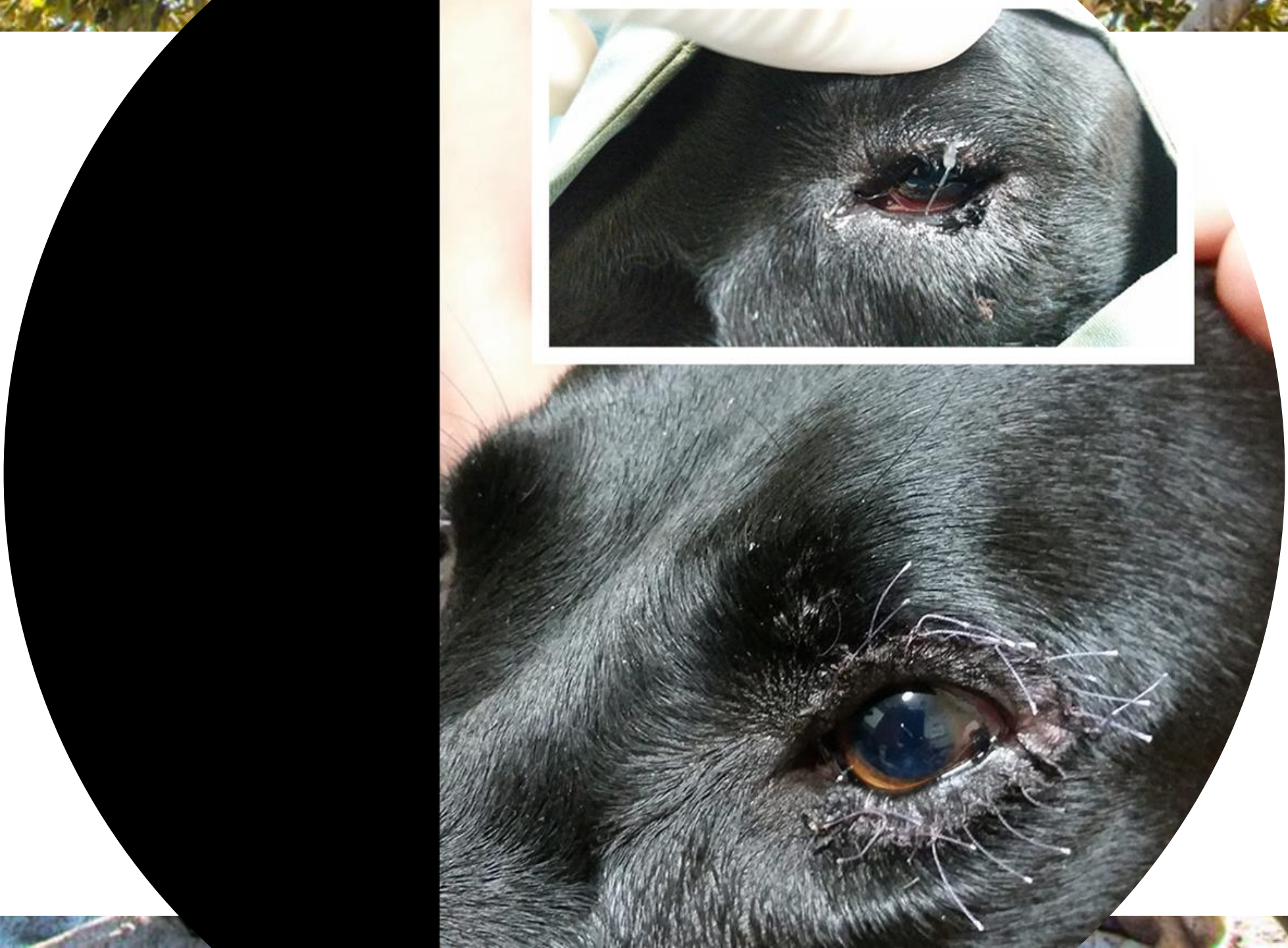
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Entropion



- Akita, pug, Chow Chow, St. Bernard, Cocker Spaniel, Boxer, English/Welsh Springer spaniel, Labrador Retriever, Cavalier King Charles'spaniel, Mastiffs, Great Dane, Irish Setter, Shiba Inu, Rottweiler, Poodle, Bloodhound





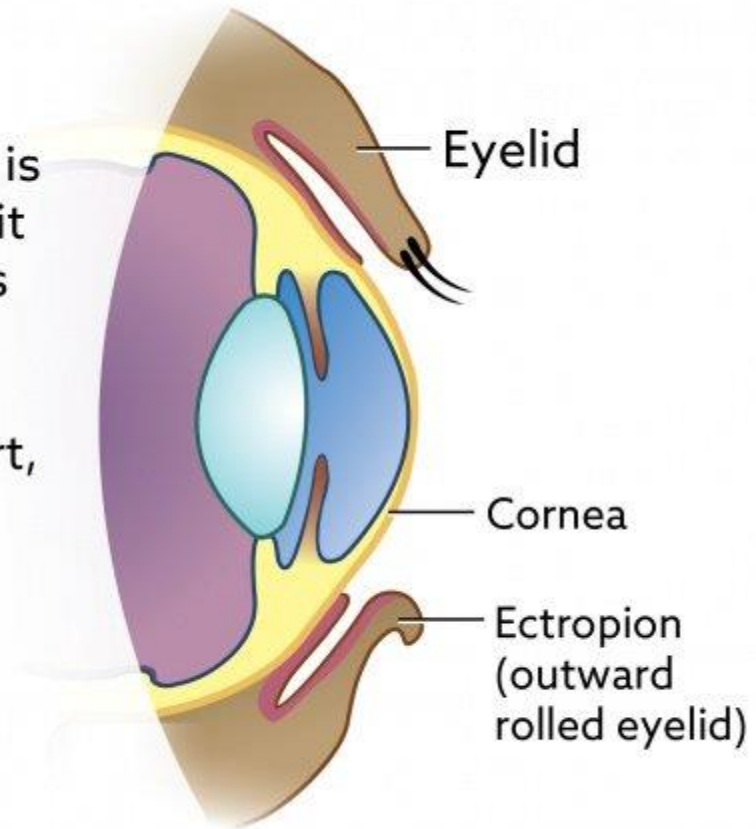
Temporary Eyelid tacking in a young dog



Ectropion

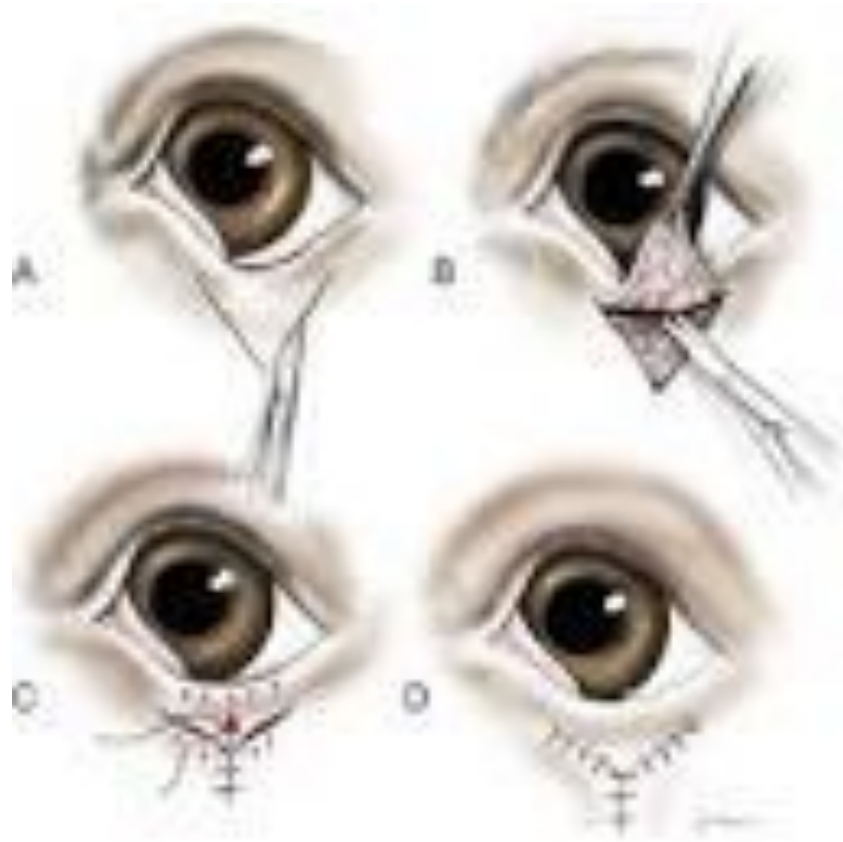
While ectropion is a recognized trait in certain breeds of dog, this condition can cause discomfort, pain, and other eye problems.

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V to Y Ectropion Repair



Distichiasis, Trichiasis and Ectopic Cilia

Distichiasis – an extra row of eyelashes

Trichiasis – normal lashes that are directed back toward the cornea

Ectopic Cilia – solitary hairs that grow from the meibomian gland through the palpebral lid towards the cornea

Treatment – dependent on whether they are causing problems

-electrolysis – usually grows back in 5-6 weeks

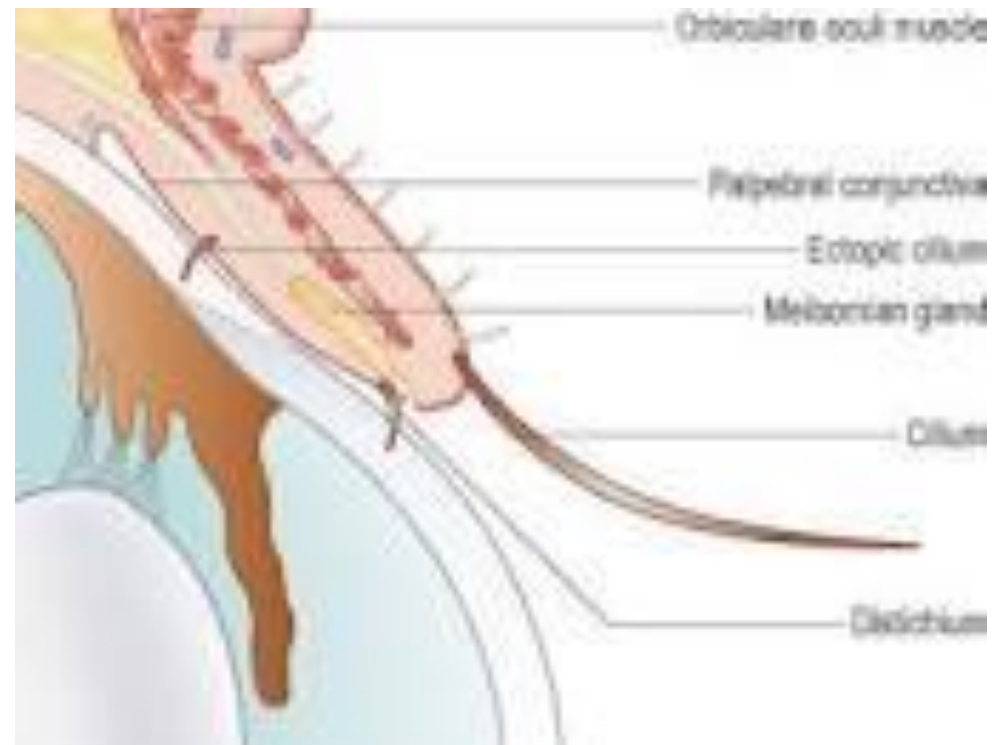
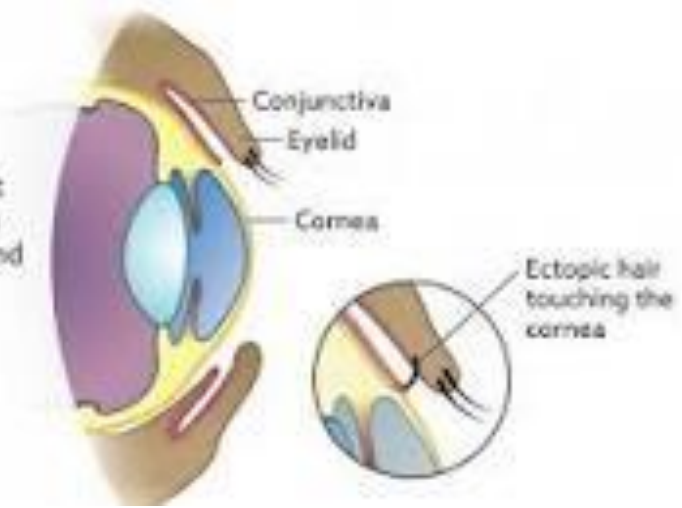
-cryotherapy

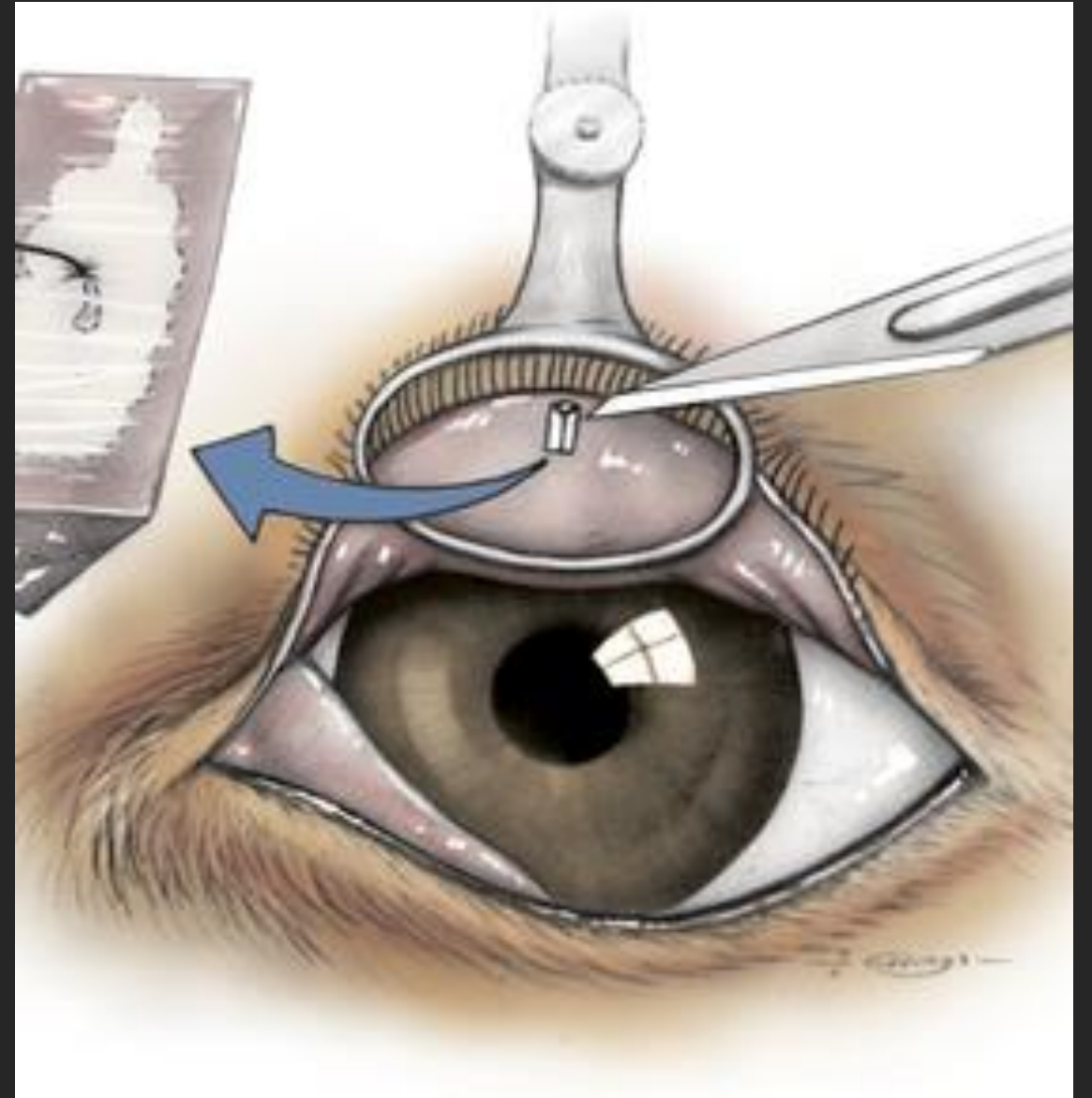




Ectopic hairs that touch the cornea can cause pain and corneal ulcers.

© iStockphoto.com





Other diseases of the lids and conjunctiva

- Blepharitis –
- Tumors – benign vs malignant -
- Trauma
- Conjunctivitis
 - Infectious – bacterial, viral, fungal, rickettsial and parasitic
 - Non-infectious – allergic, follicular
- Difference between dogs and cats (dogs – infection is lower cause, cats – infection is most likely cause – viral (herpes, calici), bacterial (Chlamydomphila felis), mycoplasma





Blepharitis

Warm compress

Topical antibiotics

Oral antibiotics

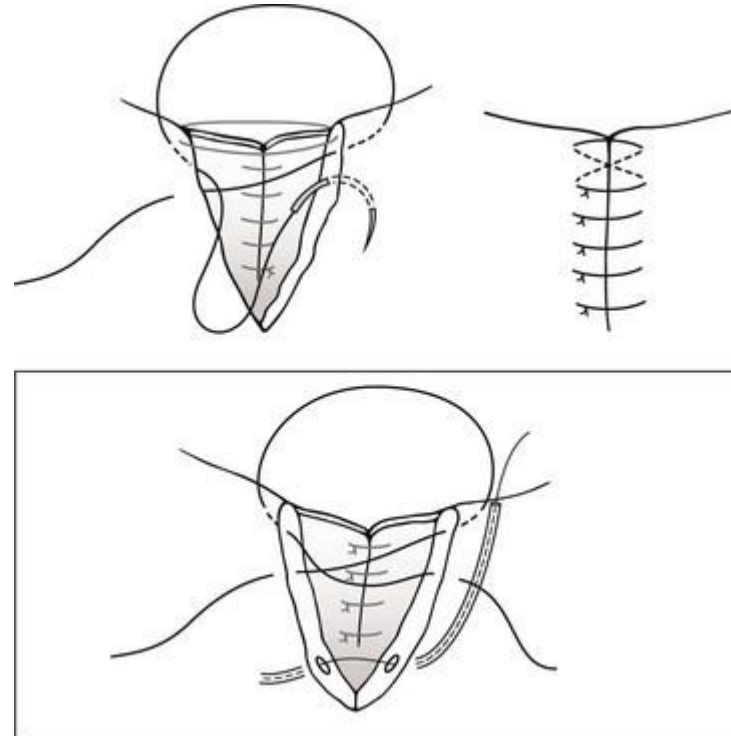
Oral NSAID

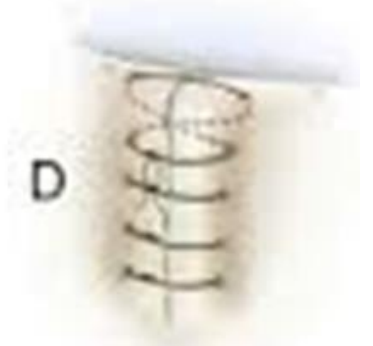
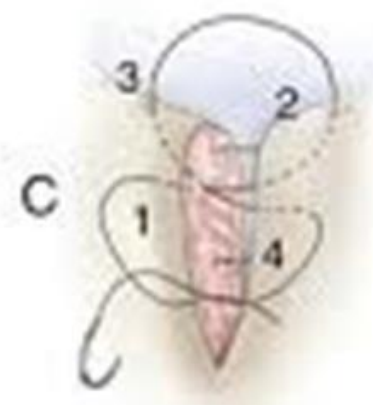
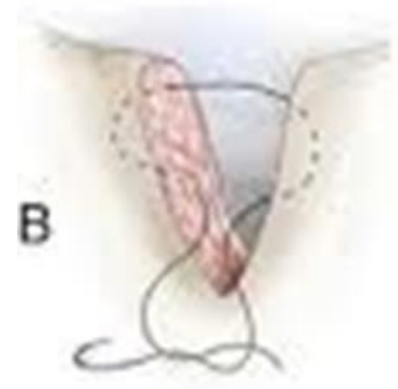


Surgical eye pack

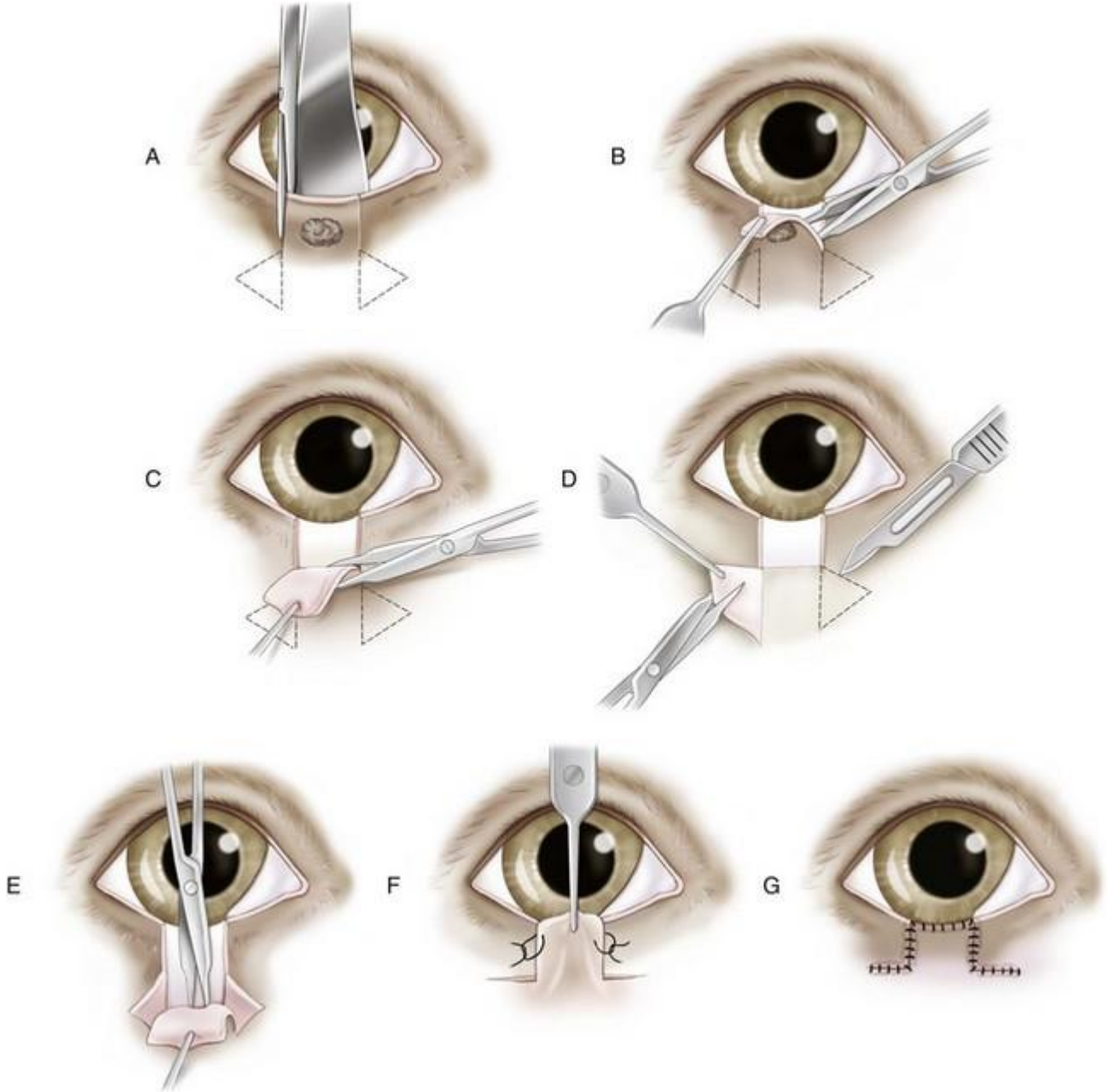


Surgical repair of lids

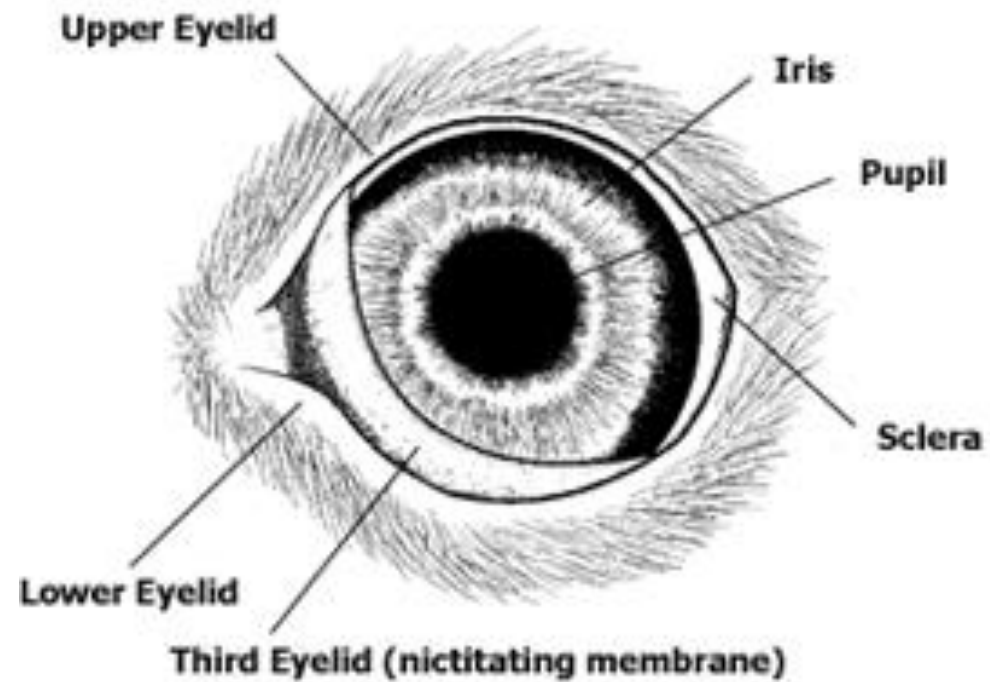




Sliding Skin Graft for larger Eyelid mass removal



Enlarged Medial Canthus



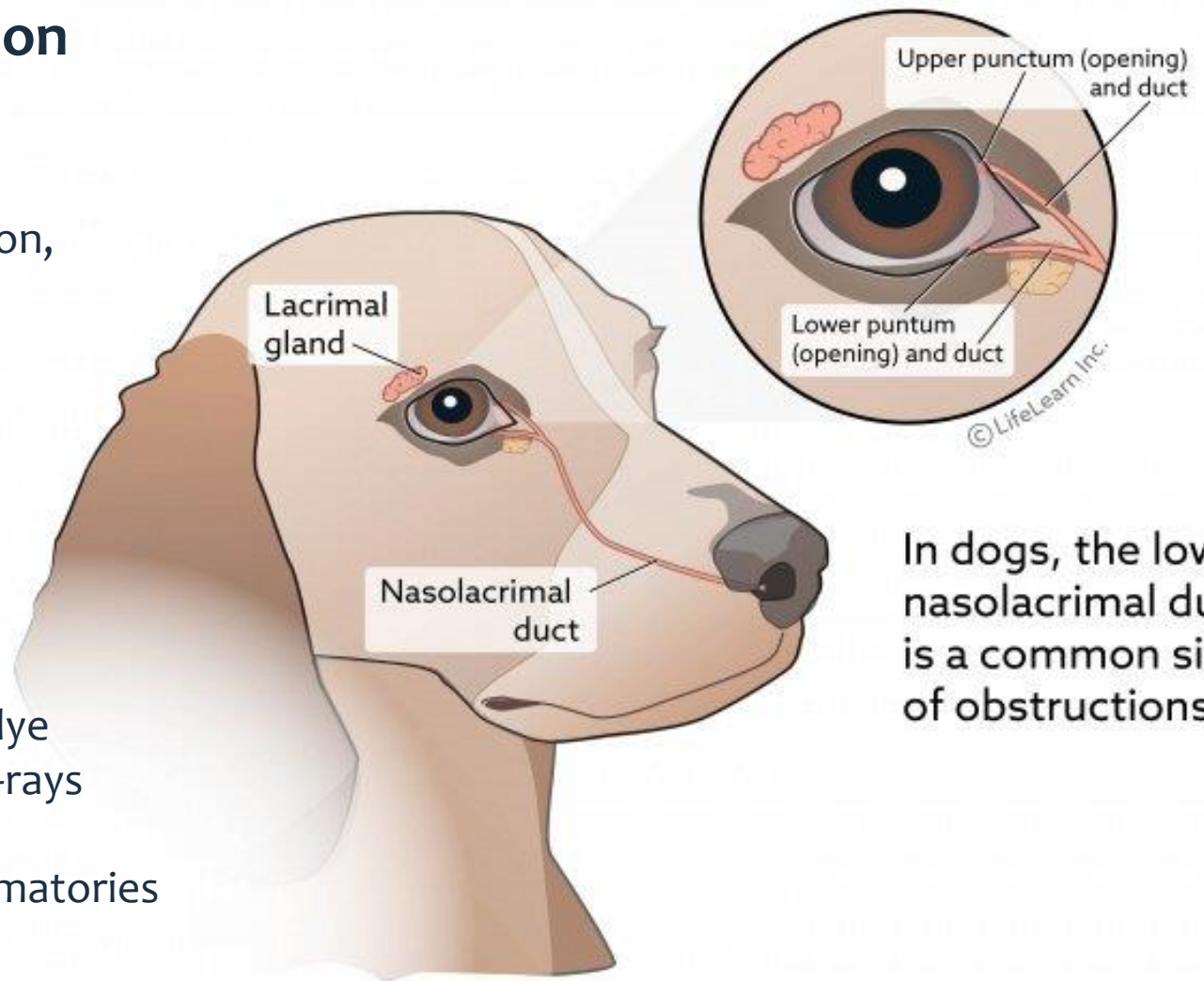
Nasolacrimal Duct Obstruction

Causes – size and shape, hereditary defect (imperforate puncta, inflammation or infection, tumors or foreign material)

Signs – excessive watering or reddish-coloured tear staining – may lead to skin Infection (redness, itching, swelling, hair Loss)

Dx – Fluorescein dye, a few drops are placed In eye and nose and mouth are checked for dye (with black light). Advanced dx's – culture, X-rays

Tx – sedate and flush with canula, antiinflammatories



In dogs, the lower nasolacrimal duct is a common site of obstructions.



<https://youtu.be/9F4OnT3Edt8>

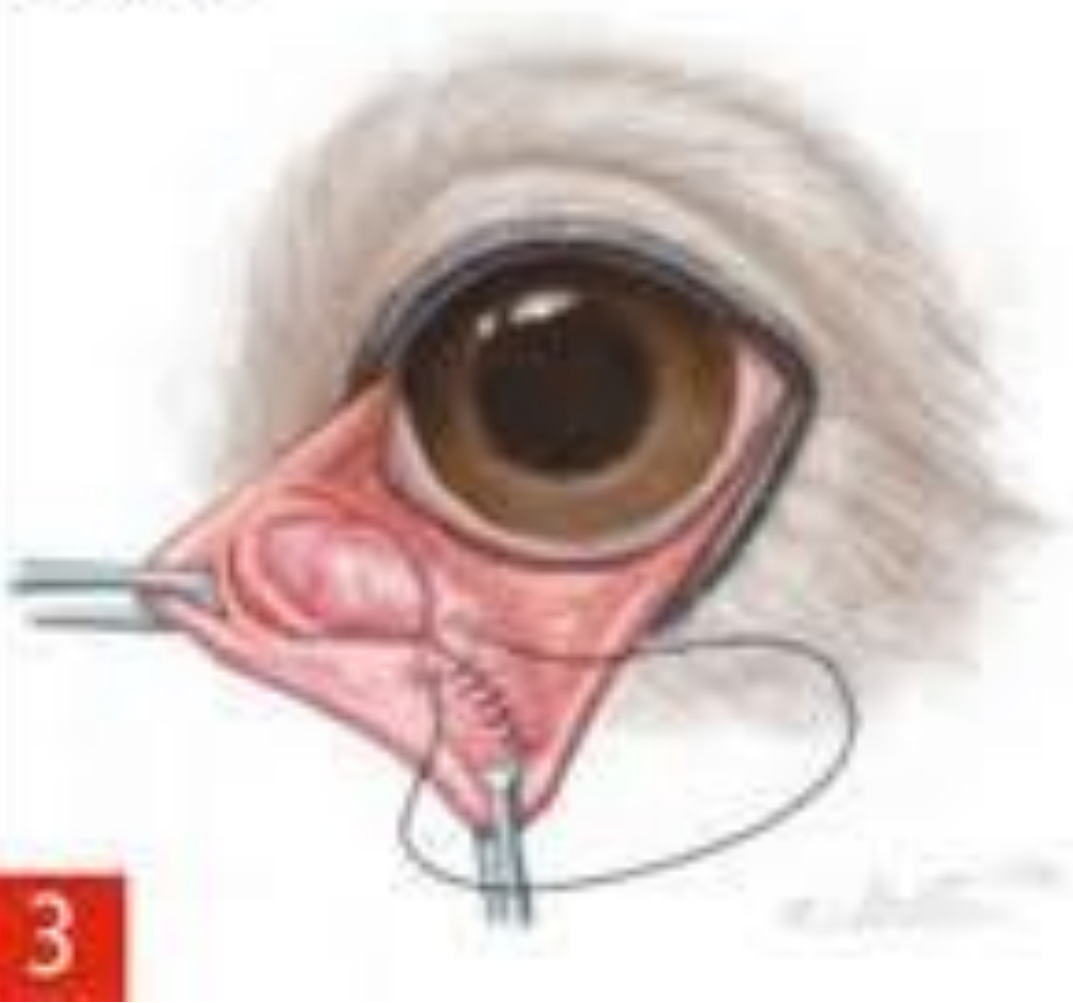
Enlarged (or prolapsed) gland of the third eyelid

- Also called – “cherry eye”
- Breed predisposition - Maltese, Bassets, Rottweilers, Neapolitan Mastiffs and Shar Peis.
- Tx – medical vs surgical
- DO NOT remove the enlarged gland
- Surgical techniques – tack down, or pocket technique





Continuous suture placed with the "pocket method" to repair the prolapsed gland



Morgan "pocket technique" repair of Enlarged third eyelid gland

<https://www.youtube.com/watch?v=iGMGZ9BDJbo>

Keratoconjunctivitis Sicca (Dry eye)

- Def'n – chronic progressive inflammatory and degenerative disease with deficient or absent production of preocular tear film.
- Causes – drugs, removal of gland of 3rd eyelid, breed predisposition
- Clinical signs – thick discharge – greenish to yellow opaque discharge
- Breed predisposition – Shih-Tzu, Lhasa Apso, English Bulldog, Westie, Cocker spaniel, Yorkie, Poodle, Schnauzer

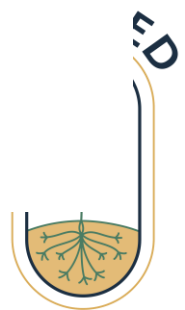


Keratoconjunctivitis Sicca

- Not a bacterial infection – bacterial conjunctivitis is rare in dogs
- Schirmer Tear Test < 10 mm/min – KCS, 10 – 15mm/min – suggestive of KCS, > 15mm/min – normal
- Tx – topical cyclosporine – 0.2% Optimmune, 0.2% compounded in oil, also corneal lubricant (pharmacy), oral pilocarpine – 1 drop in food twice daily, increase by 1 drop until dog seems nauseous or vomits







Potential New Therapy:

Allogeneic Stem Cell Therapy

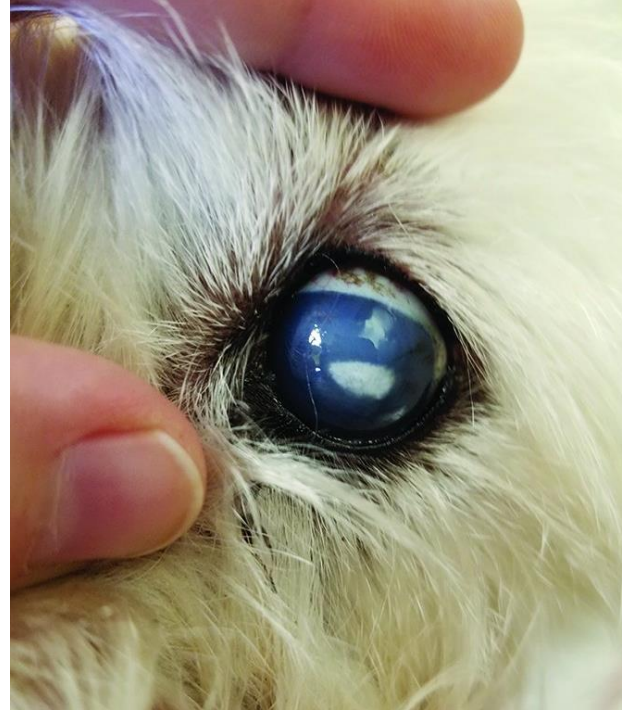
1 injection of mesenchymal stem cells – 0.3 in dorsal lacrimal gland and 0.2 in accessory LG

Effective for 12 months or longer

Currently done under GA

<https://stemcellsafari.com/clinical-reports/allogeneic-stem-cell-therapy-for-kcs/>





Corneal deposits

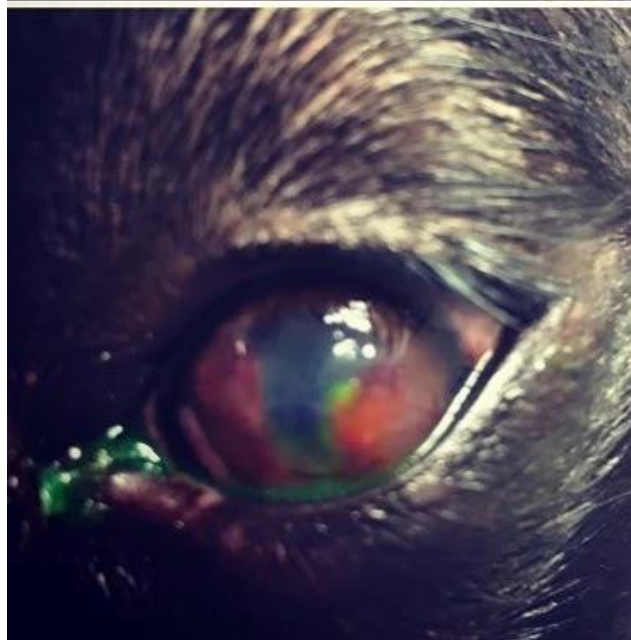
- White – lipid deposits
- Brown (cats – corneal sequestrum)
- Hazy – corneal edema
- Blue – puppies – distemper, distemper vaccine
- Brownish black – due to chronic irritation
- Pinkish – brown - pannus

Chronic superficial keratitis “pannus”

Autoimmune disease that affects the cornea and if left untreated can cause severe scarring and impair vision

Progressive disease based on genetics and UV exposure
Common in German Shepherds, greyhounds, but any breed can get it.

Tx – steroids, cyclosporine, tacrolimus



Corneal Ulcer

- Superficial
- Deep
- Indolent or non-healing
- Perforated



Superficial Corneal Ulcer

- Clinical signs – blepharospasm, discharge, painful
- Diagnosis – Alcaine, Fluoroscein stain, bright light
- Treatment – debride loose edges with sterile cotton tipped swab
- Topical antibiotic TID, oral NSAID, Elizabethan Collar
- Recheck and repeat Fluoroscein stain in 4-5 days



Fluorescein stain



Superficial ulcer -
debridement





Deep Corneal Ulcer

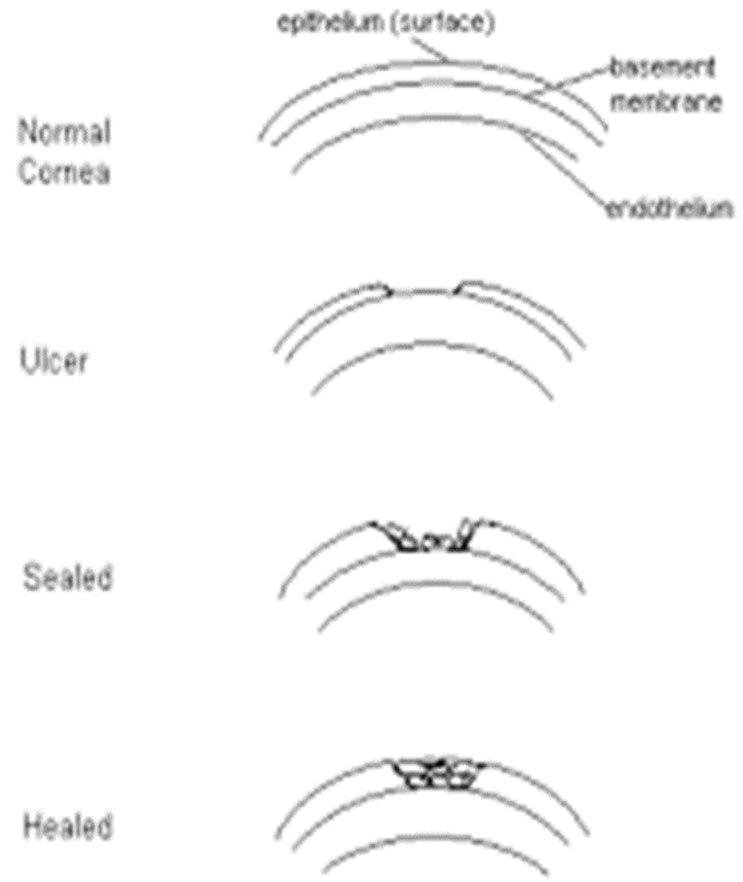
- Clinical signs – blepharospasm, discharge, painful
- Diagnosis – Alcaine, Fluorescein stain, bright light
- Treatment – handle with caution!
- Topical antibiotic Q 2-4 hours, oral NSAID, Elizabethan Collar, topical atropine, autologous serum
- Recheck and repeat Fluorescein stain in 4-5 days
- Autologous serum – can take from that dog or another, 5-10 ml, spin down to collect serum, TID-QID, refrigerate,

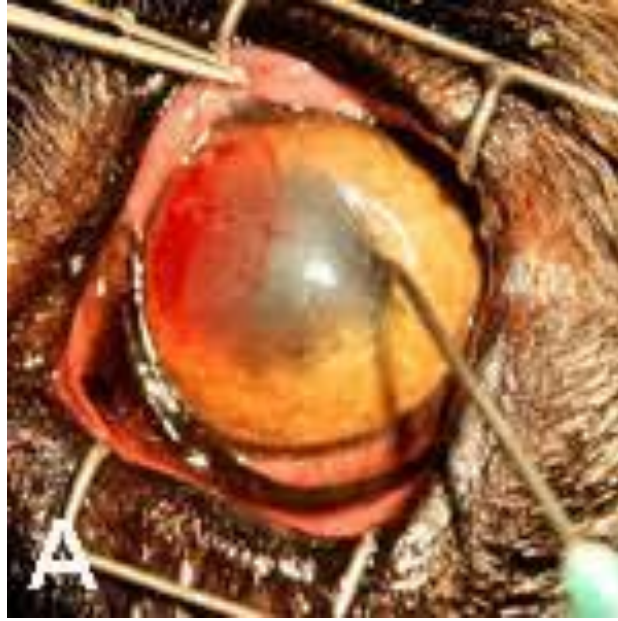


Indolent (or non-healing ulcer)

- Def'n – an ulcer that appears to heal but then the new cornea peels off because it isn't attached
- Breed dispositions – Boxer (Boxer ulcer)
- Treatment – grid keratectomy or punctate keratectomy then treat as a deep ulcer







Other corneal diseases

- Dermoid
- Eosinophilic plaque (cats)
- Foreign body (porcupine quills)



